Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Previously Presented) A method of estimating the time offsets between signals transmitted by plural transmitters of a communications network and received by a receiver attached to a terminal, the method comprising the steps of

(a) creating a terminal section of a representation of the signals from the plural transmitters received by the receiver at the terminal;

(b) creating a first section of a representation of the signal transmitted by a first of said transmitters, and creating a second section of a representation of the signal transmitted by a second of said transmitters, each of which sections overlaps in time with the terminal section;

(c) using the first section, the second section and a set of signal parameters, including initial estimates of the time offsets between the first section and the terminal section and between the second section and the terminal section, to create a model of a section of a representation of the composite signal received by the receiver from the first and second transmitters;

(d) comparing the model with the terminal section;

(e) refining the set of signal parameters including the time offset estimates to minimise the difference between said model and the terminal section;

and

(f) adopting the time offsets in the refined parameter set used to minimise the difference between said model and the terminal section, as the estimated time offsets between the first section and the terminal section and between the second section and the terminal section.

2. (Original) A method according to claim 1, wherein the first section, the second section, and the terminal section are created by sampling the respective signals at sample times according to a predetermined sampling rate.

3. (Currently Amended) A method according to claim 2, wherein at least the first section is scaled by a first initial complex amplitude value and delayed by a first initial time delay and the second section is scaled by a second initial complex amplitude value and delayed by a second initial time delay, whereafter the scaled and delayed first and a second sections are used to build an adjustable representation or model of the combined signal from the first and second transmitters received by the receiver, the model of the combined signal from the first and second transmitters received by the receiver is subtracted from the terminal section to produce a time series containing the complex difference at each sample time, and wherein the squares of the amplitudes of the complex difference at each sample time are added to produce a single real value representative of the overall difference between the model and the target signal or set of signals[[.]].

4. (Original) A method according to claim 3, wherein the model comprises three, four or more scaled and delayed transmitter sections.

5. (Previously Presented) A method according to claim 1, wherein the first and second sections are created at the respective first and second transmitters.

6. (Previously Presented) A method according to claim 1, wherein the first and second sections are created in one or more sampling devices attached to the respective transmitters.

7. (Previously Presented) A method according to claim 1, wherein the first and second sections are created by computer programs using information supplied from the network about the transmitted signals.

8. (Previously Presented) A method according to claim 1, wherein the signal representation sections are sent to one or more computing devices in which said estimates are calculated.

9. (Original) A method according to claim 8, wherein the terminal location is calculated in said one or more computing devices.

10. (Previously Presented) A method according to claim 8, wherein the one or more computing devices are in the or another terminal.

11. (Previously Presented) A method according to claim 1, wherein the terminal section of the representation of the signals received by the receiver at the terminal is recorded in the terminal before being sent to a computing device.

12. (Previously Presented) A method according to claim 1, wherein the terminal section of the representation of the signals received by the receiver at the terminal is transferred in real time to the computing device and a recording made there.

13. (Previously Presented) A method according to claim 1, further comprising the step of calculating the position of a mobile terminal in a

communication network using the estimated time offsets.

14. (Previously Presented) Apparatus for estimating the time offsets between signals transmitted by plural transmitters of a communications network and received by a receiver attached to a terminal, the apparatus comprising

(a) processing means arranged to create a terminal section of a representation of the signals from the plural transmitters received by the receiver at the terminal;

(b) processing means arranged to create a first section of a representation of the signal transmitted by a first of said transmitters, and to create a second section of a representation of the signal transmitted by a second of said transmitters, each of which sections overlaps in time with the terminal section;

(c) processing means arranged to create a model of a section of a representation of the composite signal received by the receiver from the first and second transmitters using the first section, the second section
and a set of signal parameters, including initial estimates of the time offsets
between the first section and the terminal section and between the second section and the terminal section;

(d) processing means arranged to compare the model with the terminal section;

(e) processing means arranged to refine the set of signal parameters including the time offset estimates to minimise the difference between

said model and the terminal section; and

(f) processing means arranged to adopt the time offsets in the refined parameter set used to minimise the difference between said model and the terminal section, as the estimated time offsets between the first section and the terminal section and between the second section and the terminal section.

15. (Original) Apparatus according to claim 14, which includes a sampling device or devices in which the first section, the second section, and the terminal section are created by sampling the respective signals at sample times according to a predetermined sampling rate.

16. (Previously Presented) Apparatus according to claim 14, wherein at least the first section is scaled by a first initial complex amplitude value and delayed by a first initial time delay and the second section is scaled by a second initial complex amplitude value and delayed by a second initial time delay, whereafter the scaled and delayed first and a second sections are used to build an adjustable representation or model of the combined signal from the first and second transmitters received by the receiver, the model of the combined signal from the first and second transmitters received by the receiver is subtracted from the terminal section to produce a time series containing the complex difference at each sample time, and wherein the squares of the amplitudes of the complex difference at each sample time are added to produce a single real value representative of the overall difference between the initial model and the target signal or set of signals.

17. (Previously Presented) A telecommunications terminal including apparatus for finding the time offsets between signals transmitted by a plurality of transmitters of a communications network and received by a receiver

attached to the terminal, the apparatus comprising

(a) processing means arranged to create a terminal section of a representation of the signals from plural transmitters received by the receiver at the terminal;

(b) processing means for receiving a first section of a representation of the signal transmitted by a first of said transmitters and a second section of a representation of the signal transmitted by a second of said transmitters, each of which sections overlaps in time with the terminal section;

(c) processing means arranged to create a model of a section of a representation of the composite signal received by the receiver from the first and second transmitters using the first section, the second section and a set of signal parameters, including initial estimates of the time offsets between the first section and the terminal section and between the second section and the terminal section;

(d) processing means arranged to compare the model with the terminal section;

(e) processing means arranged to refine the set of signal parameters including the time offset estimates to minimise the difference between said model and the terminal section; and

(f) processing means arranged to adopt the time offsets in the refined parameter set used to minimise the difference between said model and the terminal section, as the estimated time offsets between the first section and the terminal section and between the second section and the

terminal section.

18. (Previously Presented) A communications network for finding the time offsets between signals transmitted by a plurality of transmitters of the communications network and received by a receiver attached to a terminal, the network comprising

(a) a computing device or devices;

(b) a terminal having a receiver attached to the terminal, processing means arranged to create a terminal section of a representation of the signals from plural transmitters received by the receiver at the terminal, and means for sending the section to the computing device or devices;

(c) sampling devices associated with respective first and second ones of said transmitters for creating respective first and second sections of representations of the signals transmitted by a first and a second of said transmitters, each of which sections overlaps in time with the terminal section, and for sending the sections of representations to the computing device or devices;

the computing device or devices being adapted to

create a model of a section of a representation of the composite signal received by the receiver from the first and second transmitters using the first section, the second section and a set of signal parameters, including initial estimates of the time offsets between the first section and the terminal section and between the second section and the terminal section;

compare the model with the terminal section;

refine the set of signal parameters including the time

offset estimates to minimise the difference between said model and the terminal section; and

adopt the time offsets in the refined parameter set, used to minimise the difference between said model and the terminal section, as the estimated time offsets between the first section and the terminal section and between the second section and the terminal section.

19. (Original) A computing device or devices for use in a communications network according to claim 18, the computing device being adapted to

create a model of a section of a representation of the composite signal received by the receiver from the first and second transmitters using the first section, the second section and a set of signal parameters, including initial estimates of the time offsets between the first section and the terminal section and between the second section and the terminal section;

compare the model with the terminal section;

refine the set of signal parameters including the time offset estimates to minimize the difference between said model and the terminal section; and

adopt the time offsets in the refined parameter set, used to minimize the difference between said model and the terminal section, as the estimated time offsets between the first section and the terminal section and between the second section and the terminal section.

20. (Currently Amended) A program code [[means]] embodied on a computer-readable medium adapted to

create a terminal section of a representation of the signals from plural transmitters received by the receiver at the terminal;

process a first section of a representation of the signal transmitted by a

first of said transmitters and a second section of a representation of the signal transmitted by a second of said transmitters, each of which sections overlaps in time with the terminal section;

create a model of a section of a representation of the composite signal received by the receiver from the first and second transmitters using the first section, the second section and a set of signal parameters, including initial estimates of the time offsets between the first section and the terminal section and between the second section and the terminal section;

compare the model with the terminal section;

refine the set of signal parameters including the time offset estimates to minimize the difference between said model and the terminal section; and

adopt the time offsets in the refined parameter set, used to minimize the difference between said model and the terminal section, as the estimated time offsets between the first section and the terminal section and between the second section and the terminal section.

21. (Previously Presented) A method according to claim 1, further comprising the step of tracking a moving mobile terminal in a communications network by periodically estimating and using the estimated time offsets.